

1 IMPROVING THE PERFORMANCE OF A
2 ROTARY ACTUATOR IN A DISK DRIVE

3
4 ABSTRACT

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6 A method for improving the performance of a rotary actuator in a disk drive, the
7 rotary actuator comprises a voice coil motor (VCM) characterized by a torque parameter,
8 the disk drive comprises a servo control system having a motor driver circuit for receiving
9 a series of command effort signals (CEFs) transmitted based on a first seek profile, and
10 for providing an operating current to VCM based on the CEFs for causing a movement of
11 the actuator from a first radial location to a target radial location. The method includes
12 recording the transmitted CEFs, and while actuator is moving: adjusting each recorded
13 CEF to account for a disk drive influence on actuator movement; storing adjusted CEFs;
14 monitoring velocity of moving actuator; calculating an acceleration value corresponding
15 to moving actuator from the stored CEFs and monitored velocity; and adjusting the
16 acceleration value to account for a radial torque parameter variation.